

REMARKS/ARGUMENTS

The Office Action mailed January 18, 2007, has been received and its contents carefully considered. Reconsideration and withdrawal of the outstanding rejections is respectfully requested in view of the foregoing amendments and the following remarks.

Initially, given the many issues presented by the office action, it is noted that the present amendment cancels all the pending claims and presents newly formulated claims for consideration. It is believed that most, if not all, of the outstanding rejections have been rendered moot by this action. However, in an effort to be fully responsive and expedite prosecution, Applicants provide the following comments with regard to the prior rejections, and also with regard to the newly presented claims.

Turning to the rejection of several claims under section 112 first paragraph, it is believed that the reformulation of the claims overcomes the various items noted. However, the contention in the Office Action with respect to the new matter rejection, that the specification does not provide support for the “airplane wing cross-sectional profile shape,” is respectfully traversed. In this regard the Examiner is respectfully directed to the top of page 13, in paragraph 32, of the present application which states that the “adjustable lip is shown with an airplane wing shape.” Thus, Applicant does not understand how claiming an airplane wing shape can be contended to be new matter.

The rejections for indefiniteness that are based on the means-plus-function language, as well as the airplane wing cross-sectional shape, have been noted. Applicant does not concede the propriety of the rejections, however in order to expedite prosecution of this application the present claims do not include means-plus-function language or the airplane wing shape. Therefore, it is believed no further comment is needed on these rejections at this time.

The newly presented claims are intended to readily recite various aspects of some embodiments of the present invention. One of the advantages of some embodiments of the present invention is that an organic phase weir is provided, followed in the flow direction by a aqueous phase weir and an outlet. A benefit of some embodiments is that air that might become entrained in the material is captured or blocked before it gets to the outlet. One way in which this is accomplished is via a lower lip plate provided at the bottom outside of the organic weir which, combined with an angled bottom of the organic weir directs the bubbles forward to the front of the organic weir. Another way this is accomplished is by the provision of an intermediate partition, or second partition, which extends above the other partitions in the aqueous weir to trap any bubbles. In this way, crud associated with the bubbles is trapped where it can easily be removed. Another beneficial feature is the provision of a inclined plate extending upwardly from a wall of the organic weir where material enters the organic weir to avoid stagnation of material near the weir inlet.

In order to make the claims readable, and for antecedent basis, some items are claimed using nomenclature different than in the specification. To assist the Examiner in matching the claim terms with the example of the preferred embodiment, an Appendix is attached to this amendment which includes some of the claims in italics with reference numbers inserted therein (the first time an item is recited). The reference numbers identify corresponding examples of structure in the preferred embodiment. These reference numbers are not intended to be limiting, but rather are provided to give an example of the recited structure in each instance.

Finally, it is noted that the claims recite a container including a settler compartment, and the weirs are recited as part of the settler compartment. Further some dependent claims recite a mixer compartment. Although Fig. 2 shows only the settler compartment and associated weirs, it

is respectfully submitted that from a review of the specification including Fig. 1, it is appreciated that a conventional mixer compartment would be disposed to the left of the structure shown in Fig. 2.

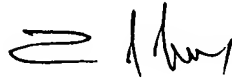
Turning next to the art rejections, it is believed that the present claims are in no way taught nor suggested by the references used in the prior rejection, and that further comment on those references is not needed at this time in view of the reformulation of the claims. However, it is respectfully submitted that Lynch fails to teach or suggest many of the claimed items, including for example an aqueous weir having first, second and third partitions having the recited heights and spacing, an organic weir having the recited shape and the recited location, and other features from each of the claims. The secondary references are not believed to remedy the deficiencies in Lynch. In any event, should the Examiner believe any rejection based on the prior art is appropriate, it is respectfully requested that the Office Action identify with respect to each and every claimed item the exact structure in each reference that the Examiner is relying upon. However, as noted above, it is believed that the newly formulated claims are patentable over all the references of record and that no such rejection will be forthcoming.

In view of the foregoing, reconsideration and allowance of the application are believed in order, and such action is earnestly solicited. Should the Examiner believe that a telephone conference would be helpful in expediting prosecution of the application; the Examiner is invited to telephone the undersigned at 202-861-1696.

Please charge any fee deficiencies or credit any overpayments to Deposit Account
No. 50-2036 with reference to Attorney Docket No. **87335.3820**.

Respectfully submitted,

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APPENDIX

33. (New) *An apparatus for liquid-liquid extraction configured to accommodate at least a first, organic, liquid phase and a second, aqueous, phase, the apparatus comprising:*

a container having a bottom container wall 142, a container end, with the second container end having a rear container end wall 140, wherein the container is adapted for material flow generally in a main flow direction from the first container end toward the second container end;

a settler compartment provided as part of the container and adjacent the container end of the container;

a first, organic phase, weir 106 for organic phase material provided as part of the settler compartment; and

a second, aqueous phase, weir 108 for aqueous phase material provided as part of the settler compartment, wherein the second, aqueous, weir is defined at one end thereof by the rear container end wall, and the second, aqueous, weir comprises:

a first partition 150 having a lower first partition end connected to the bottom container wall, and the first partition projecting upwardly from the bottom container wall and spaced apart from the rear container end wall by a first distance;

a second partition 148 having a lower second partition end spaced above the bottom container wall, and the second partition projecting upwardly and spaced apart from the rear container end wall by second distance greater than the first distance; and

a third partition 146 having a lower third partition end connected to the bottom container wall, and the third partition projecting upwardly from the bottom container wall and

spaced apart from the rear container end wall by a third distance, wherein the first partition has a height that is less than a height of the second partition, and wherein the third partition has a height that is less than the height of the first and second partitions, respectively, and wherein the second, aqueous, weir including the partitions, define a flow path for the aqueous phase material; and

wherein the first, organic phase, weir comprises:

a first organic weir wall 112 having a bottom end spaced above the bottom container wall and extending upwardly, with the first wall being spaced from the rear container end wall by a fourth distance greater than third distance, and wherein the first organic weir wall has a height greater than the heights of each of the first, second and third partitions;

a first organic weir bottom wall 114 connected at a point of connection to the bottom end of the first organic weir wall, and angling upward therefrom in the direction opposite to the main flow direction; and

a second organic weir wall 110 projecting upwardly from the angled first organic weir bottom wall, wherein the second organic weir wall is spaced from the rear container end wall by a fifth distance greater than the fourth distance, and wherein the second organic weir wall has a height less than the height of the first organic weir wall.

34. (New) The apparatus according to claim 33, further comprising a pivotally adjustable lip 152 provided at the top of the first partition to direct flow over the top of the first partition.

35. (New) The apparatus according to claim 33, further comprising a vertically adjustable lip 134 located above the second organic weir wall and movable in a direction

parallel with the second organic weir wall, and spaced from the second organic weir wall to define an organic phase material inlet for organic phase material between the second organic weir wall and the vertically adjustable lip into the first, organic phase, weir.

38. (New) The apparatus according to claim 33, further comprising an inclined plate 128 located generally proximate the top of the second organic weir wall, and extending upwardly at an angle with respect to the second organic weir wall and towards the first organic weir wall.

41. (New) The apparatus according to claim 33, further comprising a lip plate 132 having a generally L-shaped cross section disposed adjacent the point of connection of the first organic weir wall and the organic weir bottom wall, and having a portion extending generally downwardly and a portion extending generally in a direction opposite to the main flow direction, wherein the lip plate is spaced above the bottom container wall of the container.

45. (New) The apparatus according to claim 33, further comprising a material outlet 156 disposed in the bottom wall in a location in between the rear container end wall and the first partition.